

PATENT

Attorney Docket No.: 15358-005500

Client Reference No.: ID-RSV-197

METHOD AND SYSTEM FOR CREATING A DOCUMENT INTEREST PROFILE

CROSS-REFERENCES TO RELATED APPLICATIONS

This application incorporates by reference the following commonly owned co-pending U.S. Patent Application in its entirety for all purposes:

10 U.S. Patent Application Serial No. 08/995,616, ^{NOW ABANDONED,} Entitled, "AUTOMATIC ADAPTIVE DOCUMENT HELP SYSTEM." (~~attorney docket no. 15358-004200US / ID-CRC-176~~)

BACKGROUND OF THE INVENTION

15 The present invention relates to electronic documents and more particularly to method and system for providing interest profiles for electronic documents with features to enhance the experience of reading or using the electronic document.

20 Increasingly, readers of documents are being called upon to assimilate vast quantities of information in a short period of time. To meet the demands placed upon them, readers find they must read documents "horizontally," rather than "vertically," i.e., they must scan, skim, and browse sections of interest in multiple documents rather than read and analyze a single document from beginning to end.

25 Documents are becoming more widely available in electronic form. Some documents are available electronically by virtue of their having been created using word processing software. Other electronic documents are accessible via the Internet. Yet others may become available in electronic form by virtue of being scanned in, copied, or faxed. Commonly assigned U.S. Application No. 08/754,721, entitled ^{PAT. # 5,978,477,} AUTOMATIC AND TRANSPARENT DOCUMENT ARCHIVING, the contents of which are
30 incorporated herein by reference for all purposes, details a system for generating electronic as well as hardcopy format of documents.

Best Available Copy

However, the mere availability of documents in electronic form does not assist the reader in confronting the challenges of assimilating information quickly.

Certain tools take advantage of the electronic form documents to assist harried readers. Tools exist to search for documents both on the Internet and locally.

5 Once a document is identified and retrieved, automatic summarization techniques, such as the Reader's HelperTM, described in a commonly owned copending U.S. Patent Application No. 08/995,616, ^{NOW ABANDONED,} entitled AUTOMATIC ADAPTIVE DOCUMENT HELP SYSTEM, the contents of which are incorporated herein by reference for all purposes, helps the reader to find as well as assimilate the information he or she wants more
10 quickly.

What is needed is a document interest profiling method that helps the reader find the information he or she wants more quickly. The document interest profiling method should be easily personalized, flexible and adaptive as well.

15 SUMMARY OF THE INVENTION

According to one embodiment of the present invention, methods and systems for displaying an interest profile for an electronically stored document are provided. Interest profiles provide features that can enhance the experience of reading or using the electronic document. In exemplary embodiments, methods and systems include
20 one or more interest profile techniques, such as graphical presentations and the like, for browsing or searching documents are provided. The graphical presentation can provide information about content of a document. The invention can be embodied in computer systems that include user input devices, processors, displays, storage and the like.

In an exemplary embodiment, a method for providing an interest profile
25 includes a variety of steps. A step of accepting from a user input indicating the user's specified concepts of interest can be part of the method. The method can also include analyzing an electronically stored document to identify locations of discussion of the user-specified concept of interest. Techniques for determining locations of concepts of interest can be used with the method, such as keyword counting, Bayesian analysis
30 techniques described in a commonly owned copending U.S. Patent Application No. 08/995,616, ^{NOW ABANDONED,} entitled AUTOMATIC ADAPTIVE DOCUMENT HELP SYSTEM, and the like, in various embodiments of the present invention. The method also displays an indication of presence of discussion about the concepts of interest within the

merely an example which should not limit the scope of the claims herein. One of ordinary skill in the art would recognize many other variations, alternatives, and modifications. Fig. 5 illustrates a user interface 501 for viewing an annotated document online. Annotations can be added to a document in a variety of ways, such as described in a commonly owned copending U.S. Patent Application No. 08/995,616, entitled ^{NOW ABANDONED} AUTOMATIC ADAPTIVE DOCUMENT HELP SYSTEM, which is incorporated herein by reference in its entirety for all purposes. A first viewing area 502 in user interface 501 shows a section of an electronic document. Using a scroll bar 504, or in other ways, the user may scroll the displayed section through the electronic document.

Some embodiments can include a series of concept indicators 506 that permit the user to identify which concepts of interest are to be noted in the document. A sensitivity control 508 permits the user to select the degree of sensitivity to apply in identifying potential locations of relevant discussion. At low sensitivity, more locations will be denoted as being relevant, even though some may not be of any actual interest. At high sensitivity, most all denoted locations will in fact be relevant but some other relevant locations may be missed. Many embodiments provide a percentage giving the relevance of the currently viewed document to the concept for each concept name appearing by one of selectable concept indicators 506. These relevance levels offer a quick assessment of the relevance of the document to the selected concepts.

In many embodiments, an elongated thumbnail image 514 representing the contents of the document is provided in a second viewing area 515. Thumbnail image 514 depicts a representation of the contents of the document, the current location of the reader, i.e., the location of the text displayed in section 502, using a sliding window 522, as well as annotations corresponding to locations of discussion of concepts of interest to the reader, such as annotation 530a that corresponds to annotation 530b in the document displayed in viewing area 502. An annotation contour 520 can be displayed along with elongated thumbnail image 514. Annotation contour 520 can provide an indication of the presence of one or more concepts of interest to the reader within the document. A second sliding window 524 provides a counter part to sliding window 522. Counterpart sliding window 524 can be positioned along the annotation contour 520, to enable the user to find discussions of the topics of interest within the document.

In some embodiments, one or more navigation tools can be found on a navigation toolbar 516. Miscellaneous annotation tools can be found on an annotation